
**The making of the geological map
of eastern Labrador**

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The Geological Survey of Newfoundland and Labrador recently released a 1:500 000-scale compilation map and 25 1:100 000-scale individual geological maps for eastern Labrador. The full-colour maps cover roughly 80 000 km², which represents about 20% of the land area of the Province or 0.8% of Canada. They are the final cartographic product of a 25-year reconnaissance mapping program in eastern Labrador. This presentation will review the evolution of the geological map of eastern Labrador, culminating in the preparation and features of the newly released 1:100 000-scale maps. The history of geological mapping in eastern Labrador is divided into five stages, namely (i) an explorer stage (1860–1890), (ii) a coastal mapping stage carried out during various government surveys (1890–1960), (iii) systematic reconnaissance geological mapping by the Geological Survey of Canada (1960–1975), (iv) targeted geological mapping of specific areas (1975–1978), and (v) systematic 1:100 000-scale mapping by the Geological Survey of Newfoundland and Labrador. In particular, the manner in which early mapping indirectly identified fundamental tectonic features of the region will be addressed, as will be the role attributable to changing field methods in refining the resultant geological maps.

The database that underpins the 1:100 000-scale maps includes information from nearly 29 000 field data stations, over 24 000 structural measurements, over 15 000 samples, over 6 000 field photographs, over 6 000 petrographic thin sections, 1 763 whole-rock geochemical analyses, 545 mineral occurrences, 318 paleomagnetic results and 355 U-Pb age determinations (plus other isotopic data). Except for small fringe areas, all geological mapping data have been included from previous federal and provincial projects, from university studies and from mineral exploration company mapping, utilizing original field notebook data and petrographic thin sections.

Although uncoloured preliminary editions of many of the 1:100 000-scale maps are already available, the present versions can be considered to be new products because of incorporation of extensive new petrographic, geochemical, isotopic and geophysical data; utilization of geological knowledge from formerly unmapped adjacent regions; and revised interpretations drawing on regional geological knowledge. Key and/or innovative features of the new maps are, (i) a common legend for all 25 1:100 000-scale maps, (ii) colour-coding of various dyke swarms, (iii) listing of data sources according to individual geoscientist that collected the data, (iv) comprehensive detailing of isotopic data, (v) tabulation of mineral occurrence information, (vi) locating paleomagnetic sites, (vii) cryptic extrapolation of geological features under inland and coastal waters, and (viii) inset maps for areas of detailed information.

Much of the geological knowledge generated from the mapping has already been disseminated in the geoscientific literature, but regional features for which the new maps provide a revised perspective are (i) the nature of the Grenville front, (ii) the configuration of the dextral ramp that terminates the eastern end of the Grenville orogen, (iii) the position of the northern boundary of the Pinware terrane, (iv) the disposition of a reclined regional fold in the Pinware terrane, and (v) the distribution of Iapetus-related faults and dykes.